

TERRESTRIAL MOLLUSCS FROM NEPAL¹

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(With one text-figure)

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Eleven species of terrestrial molluscs have been listed from 12 districts of Nepal. They represent 5 families under 3 orders. Of the eleven species, 6 belong to the Family Ariophantidae, 2 to Cyclophoridae and 1 each to Stenogyridae, Veronicellidae and Helicidae.

INTRODUCTION

Nepal is a landlocked Himalayan kingdom, situated between 80° 00'-88° 15' E, and 26° 30'-30° 15' N. The country has been divided into 5 development regions, which are further divided into 14 zones, with 75 districts. Out of the total area of 1,41,000 sq. km, the majority is occupied by land.

A perusal of the literature reveals paucity of information regarding the terrestrial molluscs of Nepal. Godwin-Austen (1910) and Majupuria (1981-1982) have reported a few species of terrestrial and freshwater molluscs collected from Nepal and Kathmandu valley. This report is the second of a series on the molluscan fauna of Nepal, the first being on the freshwater molluscs from the same area (Subba and Ghosh 2000). The present work is an attempt to list the terrestrial molluscan species collected during a survey of 12 districts of Nepal. The surveys were initiated in 1993, to identify and list the terrestrial as well as freshwater molluscan species of Nepal.

MATERIAL AND METHODS

A collection of terrestrial molluscs was made from various sites, representing humid, shady and rocky places in the forests, gardens,

fields, river banks, and around lakes and ponds. The 12 districts surveyed were Ilam, Jhapa, Morang, Sunsari, Dhankuta, Saptari, Udayapur, Kathmandu, Lalitpur, Kaski, Gulmi and Rupandehi, representing six zones (Mechi, Koshi, Sagarmatha, Bagmati, Lumbini and Gandaki) of eastern, central and western Nepal (Fig. 1). The shape, colour and habitat of the molluscan samples, from these collection sites, were recorded. For further morphological studies, specimens were preserved in 70% ethanol. Molluscan shells were washed and dried, and kept in plastic containers, or small vials with cotton, for identification.

Identifications were made with the help of literature, including Cooke *et al.* (1896) and Raut and Ghose (1984). All samples were sent to the Zoological Survey of India, Kolkata for confirmation of identification.

RESULTS AND DISCUSSION

A total of 11 species of terrestrial molluscs were found from 7 eastern, 2 central and 3 western districts of Nepal. Out of the 11 species, 1 belongs to the order Soleolifera, 2 to Mesogastropoda and the remaining 8 to Stylommatophora (Table 1). Distribution pattern of the terrestrial molluscs in the 12 districts of Nepal has been shown in Fig. 1. Some information on their habitat and distribution is given below:

Cyclophorus fulguratus was recorded from different places in the Terai and Siwalik hills

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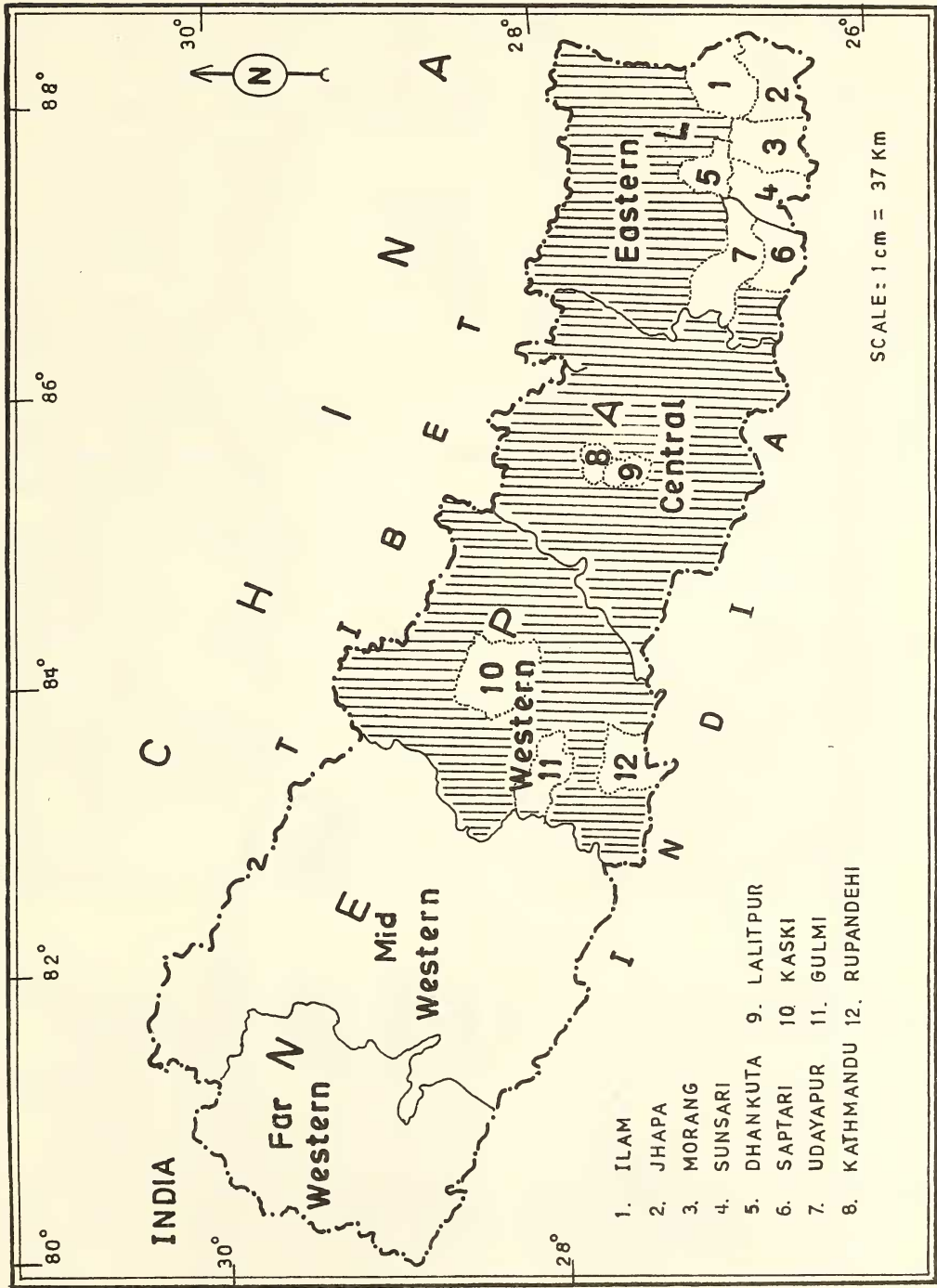


Fig. 1: Distribution of terrestrial molluscs in Nepal

LAND MOLLUSCS OF NEPAL AND THEIR DISTRIBUTION IN DIFFERENT DISTRICTS

S.N.	Genus	Species	Family	Sites of collection													
				Ila	Jha	Mor	Sun	Dhan	Sapt	Ud	Kath	Lal	Gul	Kash	Rup		
1.	<i>Cyclophorus</i>	<i>fulguratus</i>	Cyclophoridae	+	+	+	+	+	-	+	-	-	-	-	-	-	-
2.	<i>Cyclophorus</i> (Schumacher)	<i>aurantiacus</i>	"	+	-	+	+	+	-	+	-	-	-	-	-	-	-
3.	<i>Macrochlamys</i>	<i>indica</i>	Arriophantidae	+	-	-	+	+	-	-	-	-	+	+	+	+	-
4.	<i>Macrochlamys</i> (Benson)	<i>tugurium</i>	"	+	-	-	+	+	-	-	-	-	+	+	+	+	-
5.	<i>Bensonia</i> (Blanford)	<i>nepalensis</i>	"	+	-	-	-	+	-	-	-	-	+	+	+	+	-
6.	<i>Oxytes</i> (Blanford)	<i>syvicola</i>	"	+	-	-	+	+	-	-	-	-	+	+	+	+	+
7.	<i>Khasiella</i> (Benson)	<i>pansa</i> unidentified	"	+	+	+	+	+	+	-	-	-	-	-	-	-	+
8.	<i>Cryptaustenia</i>	<i>fulica</i>	Stenogyridae	-	+	+	+	+	+	-	-	-	-	-	-	-	-
9.	<i>Achatina</i> (Bowdich)	unidentified	Veronicellidae	+	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	<i>Laevicaulis</i>	unidentified	Helicidae	+	-	-	-	+	-	-	-	-	+	+	+	+	+
11.	<i>Anadenus</i>	unidentified		+	-	-	-	-	-	-	-	-	-	-	-	-	-

Ila-Ilam; Jha-Jhapa; Mor-Morang; Sun-Sunsari; Dhan-Dhankuta; Sapt-Saptari; Ud-Udayapur; Kath-Kathmandu; Lal-Lalitpur; Gul-Gulmi; Kash-Kashki; Rup-Rupandehi
 +: species presents, -: species absent

(Churia hills) up to 1,500 m. It prefers to inhabit old walls and stones covered with algae and moss, which is perhaps used as food. *C. aurantiacus* is larger than *C. fulguratus*. It was recorded from the Terai region, Churia hills (1,500 m) and Mahabharat hills (1,676 m), but is more common at Churia hills.

A good collection of *Macrochlamys indica*, *M. tugurium* and *Bensonia nepalensis* was made from the Mahabharat hills. These species were found in rocky or stony regions covered with algae and moss, hidden under stones and dry leaves during the dry season.

Oxytes sylvicola ranged from the Churia hills to the middle of the Mahabharat hills (1,658 m) of eastern and central Nepal. Stony places with decayed leaves seemed to be a suitable habitat.

Khasiella pansa was common at several places in the Terai, Churia hills and Mahabharat hills of eastern Nepal. It was not recorded from any of the districts surveyed in central and western Nepal. It generally climbs up shrubs and remains adhered to the under surface of green leaves. *Cryptaustenia* sp. was recorded from similar habitats in Kashki district, western Nepal. Interestingly, that was the sole record.

Achatina fulica, or large garden snail (giant African snail) was the largest terrestrial mollusc recorded. It is restricted to the humid subtropical areas of the Terai and lower part of

Churia hills, from eastern and central Nepal. This snail is notorious for its damage to vegetables and fruits.

Laevicaulis sp., a small slug, was recorded in the Terai of eastern Nepal, inhabiting nearby water sources such as fish ponds, reservoirs, water channels and paddy fields.

Anadenus sp., or *Chiple Kira*, one of the largest highland molluscs, was recorded from the Mahabharat hill range between 1,828 m and 2,735 m, from eastern and central Nepal. Its habitat is similar to that of *Laevicaulis* sp.

This survey gives some valuable information on the distribution of terrestrial molluscs in eastern, central and western Nepal. However, a district level survey of other regions of Nepal must be made, before any biogeographical conclusions are drawn.

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